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ABSTRACT

The focus of this policy brief is on efforts to redesign state and district school finance systems to align them more closely with the standards-based education reform movement. Past efforts to offset fiscal disparities with state aid in low-property wealth districts have only been moderately successful. Part of the problem lies in the fact that over the past 30 years, strategies to reduce fiscal disparities, whether court ordered or not, have had limited success. Spending per pupil remained highly associated with property wealth. The question of fiscal fairness, however, fails to address what resources are necessary to reach the goal of teaching students to high standards. This requires a shift in thinking from equality to adequacy; a shift that may help policy makers create a new school-finance structure that is linked to strategies that raise levels of student achievement. This report draws up a new finance structure with the goals of identifying the base-level spending needed to teach each student to state standards in each district/school; identifying how much extra funding is needed to teach students with special needs; and providing performance incentives to encourage effective and productive spending. (Contains 43 references.) (JMD)

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Graduate School of Education • *University of Pennsylvania* • *RB-26-September 1998*

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Creating School Finance Policies That Facilitate New Goals

by Allan Odden

In this policy brief, Allan Odden argues that it may be time to redesign state and district school finance systems to align them more closely to the standards-based education reform movement and the national goal of teaching all students to rigorous performance standards.

Historically, a major focus of the school finance policy debate was the fiscal disparities across school districts within states. These disparities in per-pupil spending were inversely linked to tax efforts and strongly linked to the size of the local property tax base per pupil. Although the strength of the connection between spending and education quality was debated, most policymakers admitted some connection and viewed the overall structure as unfair. Low-property wealth districts were doubly disadvantaged—they not only had high tax rates but also had low education expenditures and a lower quality education program. On the other hand, high-property wealth districts were doubly advantaged—they had both low tax rates and high education expenditures and, in most cases, higher quality education programs. But most efforts to offset these disparities with state aid were only modestly successful over time. It became apparent that additional strategies were necessary to reduce spending differences.

As research by Evans, Murray, and Schwab (1997) shows, many states have undergone court-ordered school finance reform in the past 30 years, which has had limited success in reducing fiscal inequality. Indeed, whether or not the reform was court-ordered, policymakers in most states developed strategies that attempted to reduce spending differences across districts, including flat grants, minimum foundation programs, guaranteed tax base and percentage equalizing formulas, and full state funding. But for the most part, these formulas have fallen far short of reducing fiscal disparities. Although these reforms managed to reverse the trends in tax rates between high- and low-property wealth districts in many states (so low wealth districts tend to have low tax rates and high wealth districts tend to have high tax rates), they still left spending per pupil highly associated with property wealth.

With the national emphasis on teaching students to higher standards, however, it is becoming clear that this question of fiscal fairness, while important, does not address the more fundamental question of what resources are necessary to reach those high standards. Therefore, the traditional focus on equitable distribution of resources is giving way or expanding to a new focus: ensuring that school finance policy can facilitate the goal of teaching students to higher standards. As Clune (1994a, 1994b) argues, this requires a shift in school finance thinking from equity to adequacy. Such a shift challenges policymakers to identify a new school finance structure that is more directly linked to strategies that raise levels of student achievement.

Drawing on three new publications by CPRE researchers, "Improving State School Finance Systems: New Realities Create Need to Re-Engineer School Finance Structures" (Odden, 1998a), "School Finance Systems: Aging Structures in Need of Renovation" (Odden and Clune, 1998), and "School Based Financing in North America" (Odden, 1998b), this *CPRE Policy Brief* sketches a new school finance structure. According to this vision, the first task is to identify for

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each district/school the level of base spending needed to teach the average student to state standards. The next task is to identify how much extra each district/school requires to teach students with special needs—those with learning and other disabilities, from low-income backgrounds, and with limited English proficiency (LEP)—to the same high achievement standards. And the third task is to provide performance incentives so schools use the dollars for more effective and productive educational strategies and programs that successfully improve student achievement. Establishing this new school finance structure will be more successful if it includes policy initiatives from all three educational policy levels: state, district, and national.

It should be noted that even a shift from equity to adequacy will not necessarily make student achievement more equal. The primary goal is to link a finance system to a set of programmatic strategies that educate the vast majority of students to a much higher minimum level of performance, a level that will provide more children with the knowledge, skills, and expertise needed for full participation in the economic, social, and family life of the future.

Implementing a New School Finance Structure: The State Role

Since education policy is primarily designed at the state level, the state has a major role to play in establishing a new school finance structure. Although it is true that many changes must occur at the district level, about half of all the spending comes from the states. Therefore, the catalyst for the new finance structure must come from a statewide policy initiative. As mentioned above, the new structure would be based on adequacy and linking school finance to educational standards. Such a structure would consist of four elements:

1. A base spending level considered adequate for the average child to reach high standards.

One method, the input approach, identifies the average staffing (teachers, professional support staff, administration, etc.) in a typical district and uses statewide average costs to determine a spending level. The problem with this approach, however, is that resource levels are not directly linked to actual measures of student performance. Because of this, the input approach is not the preferred method of implementing the new school finance structure, though it has been used in some states (e.g., Washington).

To be sure, there is considerable evidence that teacher quality, a type of input, is related to student performance (e.g., Ferguson, 1991; Monk, 1994). These characteristics were not included in the traditional input approaches to school finance formulas; such enhancements would have improved those strategies.

A second approach to determining an adequate spending level seeks to directly link spending to a specified level of student performance. This can be done using one of two procedures. The first determines a desired level of performance using state tests of student performance and then identifies districts that produce that level of performance. From that group, those districts with comparable or close to state average characteristics are selected, and their average spending per pupil is calculated. Research in Illinois by Hinrichs and Laine (1996) and in Ohio by Alexander, et al. (1995) and Augenblick (1997) concluded that the level of spending identified using this approach was approximately the median spending per pupil in these states. Research in Wyoming, using a slightly different strategy (Guthrie et al., 1997), determined a higher level. The second procedure is to use a

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cost function to identify a level of spending per pupil that is sufficient to produce a given level of performance, adjusting for characteristics of students and other socio-economic status characteristics of districts, including economies and diseconomies of scale. A cost function is defined as the spending necessary to produce any given level of output (Imazeki and Reschovsky, 1997/1998). Therefore, this economic method is well-suited for the task at hand because it directly links the level of spending to the outcome.

It should be noted that such approaches are best based on state tests that assess what students know and can do to high standards, i.e., not just on basic skills kinds of tests that have too severe "ceiling effects" for learning. Further, such approaches might also desire more than achievement measures of performance and could include measures of other outcomes that the public desires such as postsecondary completion rates, passing scores on advanced placement tests, and high school graduation rates.

A third approach is to identify the costs of a "high performance" school model—a schoolwide design crafted specifically to produce desired levels of student academic achievement—and to determine the level of spending that would be sufficient to fund such a model. Two examples of such models are the Success for All/Roots and Wings program, specifically designed for low-income, minority students in urban school systems, and the Modern Red Schoolhouse. Considerable research suggests that such new school designs help accomplish the goal of teaching students to higher standards (Edison Project, 1997; Slavin and Fashola, 1998; Stringfield, Ross and Smith, 1996). Odden and Busch (1998) found that these school design models could be funded with approximately the national median expenditure per pupil.

When these approaches are applied, it appears that in many states the median would approximate an adequate base level of spending (Odden and Busch, 1998), but in some states, particularly in the South and West, the median would be insufficient. Preliminary research suggests that the national median is the lowest level of current spending that would approximate an adequate spending level.

This base level of spending would most easily be provided through a foundation type of school finance formula. A foundation program provides a specified expenditure per pupil to all school districts at a given required local school tax rate. If that tax rate does not raise the foundation level of revenues per pupil, then the state makes up the difference. Thus, with a combination of local and state funds, a modern foundation program could provide an adequate base level of revenues per pupil.

2. An additional amount of money for low-income, disabled, and LEP students to reach standards.

The base level of spending identified above is targeted to the average student. But some students need extra help, and thus more resources, to reach the same standards. These students include those from low-income families, those with disabilities, and those with limited English proficiency. Identifying the resources necessary to teach these students to a specified level of achievement will enable states to determine the additional amount required for each of these students. Most research that has investigated these additional costs has focused on low-income students. For example, Odden (1998a) estimates that an additional $1,000 would provide the resources needed to teach low-income students using a program such as Success for All/Roots and Wings. The research that is available on the cost of educating disabled students generally shows that on average, across all categories of disability, each student requires an additional 130 percent of resources (Chaikind, Danielson, and Braven, 1993; Moore, et al., 1988; Odden and Picus, 1992). Although insufficient research is available on the cost of educating students who cannot speak English proficiently, one method of determining this additional cost would be to determine effective strategies for such students and then identify their extra costs.

As mentioned previously, the cost function is an econometric tool that can be used to calculate a level of spending per pupil that is sufficient to produce a given level of performance. Because it works by adjusting for characteristics of students and other SES characteristics of districts, it also is especially useful in determining how much more money is required to produce a specified level of achievement for low-income, disabled, and LEP students. For example, in order to determine how much more it costs to educate a disabled child to a certain level of achievement, the model created by Imazeki and Reschovsky (1997/1998) includes two measures of disabled students. The first is the percentage of students who are classified with a disability of any kind, and the second is the percentage of students who are classified as autistic, deaf, or deaf and blind. The authors use these two measures of disability because studies have shown that the cost to educate students with the latter group of disabilities is far greater than the extra costs associated with educating students with other disabilities. In this way, the cost function can deter-

mine the additional cost of educating students who require more resources than the average student.

The results could be used either to provide the identified level of extra dollars for each needy student or to use a weighted pupil count to distribute foundation aid.

Additionally, states could support pre-school programs, full day kindergarten, and extended-day academic programs, all of which have strong links to higher student performance.

3. A price adjustment for all dollar figures to ensure comparable spending power.

Ideally, all dollar figures for such a new school finance structure—the base spending level and the augmentations for each of the three categories of students—should also be adjusted by a geographic education price index. Studies show that the purchasing power of the education dollar can vary by up to 40 percent between the lowest and highest price areas within a state. Adjusting nominal dollar amounts by a price index ensures that the dollar figures provide equal education purchasing power to districts and schools across the wide range of geographic regions and labor markets in a state. Various price adjustments are available for all counties and school districts through the National Center for Education Statistics (Chambers, 1995; McMahon, 1994).

4. Annual inflation adjustments to stabilize base spending levels.

Once the base level of spending and adjustments for higher-need students has been determined, annual inflation adjustments would be useful to ensure that minimum spending levels are stabilized and protected from erosion in subsequent years.

Implementing a New School Finance Structure: The District Role

Districts will play crucial roles in fundamentally redesigning school finance policy: they will help guide the implementation of state policies at the school level and create additional policies to tailor state frameworks to their context. The new state-to-district financing structure described above will require districts to undergo a change in the way they think as well as the way they operate. They will need to design new strategies for providing resources to schools. In addition, Odden and Clune (1998) argue that several performance enhancement elements would help support the shift from equity to adequacy. Though a framework for adopting these elements could be created at the state level, the very nature of these performance elements suggests a more active role for the local level in both the district and the school.

In making the shift to a more performance-oriented education system, it makes sense to focus on the place where teaching and learning occur: the school. While having adequate levels of money to finance programs is critical, studies have shown that schoolwide restructuring through comprehensively designed school-based management is linked to increased student achievement (Newmann, 1996; Odden and Busch, 1998, Chapter 2; Nunnery, et al., 1998; Wohlstetter, Mohrman, and Robertson, 1997). This same research concludes that providing schools with budget authority is crucial to an effective restructuring process. Providing this authority is the first of three major new district finance initiatives.

1. Provide school sites with greater control over their resources.

In order to reach the goal of teaching all students to higher standards, many schools will need to make changes that help boost their performance, and they will need to reallocate their resources to finance those changes. Studies have shown that the lack of budget control inhibits schools from successful restructuring (Bodilly, 1998). For these and other reasons, districts need to budget dollars directly to the school site in a lump sum. Having control over their resources means that schools can reallocate funds to the needs of more effective, higher performance school strategies.

Odden (1998b) reviews how five large districts in North America designed such weighted pupil, school-based funding formulas. All new funding policies were created as a necessary component of the districts' strategies to produce higher levels of performance. All districts, moreover, used a weighted pupil funding approach, with adjustments for different grade levels, different pupil needs, and different school sizes.

Implementing a school-based financing system also would require adapting state and district fiscal and accounting systems to the site level. Conceptually, this would entail gathering and reporting revenues and expenditures on a school-by-school basis (see Odden and Busch, 1997; Speakman, et al., 1997). It would also be necessary to create a fiscal information system that could be accessed by each school site, possibly through an online, interactive computer system. The budgeting and finance system created by Seattle, Washing-

ton is a good example of such a school-based, computerized fiscal system (Odden, 1998b; Seattle Web Site: http://sps.gspa.washington.edu/sps/).

2. Reinvent teacher compensation.

Since teacher compensation consumes 50 percent of each education dollar, it is the second target for school district fiscal redesign. As Kelley (1997) and Odden (1996) argue, since mid-century and particularly for the current era of education reform, school organization and education goals have been changing in ways that could have been (but were not) substantially augmented by changes in teacher compensation. They show how linking teacher compensation to the goal of teaching students to a higher standard could further stimulate the education system toward higher performance.

Particular changes that could be made include providing salary increases for the knowledge, skills, and competencies teachers need to teach a more rigorous curriculum and to engage in the required school restructuring and resource reallocation activities. Such changes would require written descriptions of what accomplished teaching entails and rigorous assessments of individual teacher practices to those standards. Much research has been done to develop these tools, including standards and assessments for beginning teachers (Dwyer, 1998; Moss, Schutz, and Collins, 1998), and standards and assessments for more accomplished, experienced teachers (Bond, 1998; Jaeger, 1998). Outside of education, these sorts of changes in compensation have enhanced the performance of the organizations that have put them in place, improving individual salaries and overall working conditions. Implementing them in education could have a similar effect on schools; improving teacher satisfaction and the overall school environment may well help raise the achievement level of all students. Though there is considerable activity across the country creating and implementing knowledge- and skills-based elements in teacher salary schedules, research needs to show what impacts such changes have and how such compensation innovations are best designed.

3. Provide school-based performance incentives.

Since the focus of the proposed new school finance structure is on providing a spending level that is adequate to produce a certain outcome at the school level, rewarding schools that achieve the desired results helps reinforce the goal. In this way, school-based performance incentives can be thought of as a way of holding schools accountable for results. However, such programs are controversial in education. Some argue this is largely because they have been designed poorly in the past, providing individual rather than group awards, and because education systems usually eliminate their funding after a year or two (Cornett and Gaines, 1992; Murnane and Cohen, 1986). In an organization like schools, however, performance awards are most appropriately provided to groups or all individuals within an organization, since the work is best conducted in collegial, team-based settings (Lawler, 1990; Richards, Fishbein, and Melville, 1993).

One way to administer these incentives would be to provide monetary rewards for schools that consistently improve student achievement from one year to the next. This would require a measure of student achievement to high standards and a sophisticated method for calculating changes, i.e., increases in performance from year to year. Recognizing improvement will help ensure that the incentives encourage schools to boost the performance of all students each year. Designing the specifics of such a program is complex and will require careful attention to many technical issues (Odden, Heneman, Protsik, and Wakelyn, 1996). The performance improvement target, or the amount of increased performance that would qualify a school or team of teachers to receive the award, would need to be identified. According to Odden (1998a), setting the improvement target as some type of rolling, historical average, so that each school is measured against past performance, may be the most feasible method.

In order to incorporate school-based performance awards into the new school finance structure, a stable funding pool must be established. The tendency in the past was to eliminate funding when dollars were scarce, a practice that erodes trust in the system and undercuts the force of the incentives. Since current programs require approximately 1-2 percent of the operating budget, states or districts over time could set aside 1-2 percent of the total education budget in a performance award trust fund to create a stable funding pool for such a program. Once built into the base, it could be renewed annually.

Early research on school-based performance awards shows that they can work (Heneman, 1998; Kelley, 1998; Clotfelter and Ladd, 1996; Ladd, forthcoming). The incentives help motivate teachers and principals to focus on improving student achievement. Teachers and principals view the system's setting performance improvement targets as a legitimate management strategy, and given appropriate assistance and additional training, most teachers believe they can produce the improved student performance. Although more research is needed, these early results show promise for why school-based performance incentives could add a performance en-

hancing element to a new school finance system designed to undergird an overall education system trying to dramatically raise student performance.

Implementing a New School Finance Structure: The National Role

In order to achieve a true policy shift from equity to adequacy, progress at the state and district level needs to be supported by new initiatives at the national level as well. Ideally, this support would consist of two important elements: vision and financial assistance.

In redesigning school finance to meet the goal of teaching students to high standards, a national vision of the new structure could help guide all states in designing a system that promotes fiscal adequacy. Determining that all schools have an adequate base level of spending per pupil will require a new look at finance issues from a national perspective. In the past, nearly all analyses of both school finance equity and school finance adequacy have been conducted using within-state data, which is deficient in addressing both issues. In fact, both Evans, Murray, and Schwab (1997), and Odden and Busch (1998) found that two-thirds of fiscal differences across school districts in the United States, after adjusting for differences in education price and student need, are caused by cross-state rather than within-state variations. Therefore, it is necessary to look at school finance policy issues through a national lens. Having a national vision behind the goal of educating all students to higher standards can help make that goal a reality.

In addition to a national vision, studies show that some federal resources will be necessary to bring many districts up to an adequate level of spending per pupil. Odden and Busch (1998) found that there are many states, especially in the South and West, that would not be providing an adequate revenue base to schools if they raised spending for all districts up to the state median, or even to the level of their highest spending districts. As was previously discussed, to achieve the new education reform goal may require setting the adequate base spending level at the national or state median, whichever is higher. However, in states where median spending is below the national median, outside resources will probably be necessary to bring spending up to an adequate level. Odden and Busch (1998) suggest that this implies a new federal fiscal role in education: providing funds to raise spending in all districts across the country at least up to the national median or to some defined, minimum nationally adequate level.

Conclusion

Creating a new school finance structure that is more aligned with standards-based education reform is an important next step for educational policymakers at the national, state, district, and school level. Research shows that making a shift from equity- to adequacy-based financing can help schools achieve the higher performance necessary to raise achievement levels needed for today's economy. This shift involves a number of changes in state-to-district financing:

- A foundation program providing an adequate base level of per pupil revenues, sufficient for the average school to teach the average child to high performance standards;
- Additional funds for students from low-income backgrounds, students with disabilities, and students with limited English proficiency to support the extra services needed to have these students also learn to the same high standards; and
- Price adjustments to insure equal purchasing power of the education dollar across geographical areas.

Changes also are required in district financing policies, including:

- Formulas to budget the bulk of district dollars to schools in a lump sum, so they can deploy their resources to the needs of their higher performance programmatic strategies;
- Changes in teacher compensation to provide salary increases for the knowledge, skills, and expertise needed to teach all students to high standards; and
- School-based performance incentives that reward teachers and schools for meeting or exceeding challenging performance improvement targets set for them.

Finally, this new approach to school finance may also involve a new federal role in school finance: to come to the aid of those states that cannot or do not now provide an adequate level of fiscal resources for educating all students to higher standards.

About the Author

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CPRE Website on School Finance

School finance is at a crossroads. The traditional focus on fiscal disparities across school districts within a state might no longer be the most salient school finance issue in an era when the primary education goal nationally and within every state is to teach students to new rigorous performance standards. Therefore, CPRE researchers have been exploring alternative methods of school finance, which may better enable schools and districts to attain these achievement goals.

Through research, conceptual development, and technical assistance, the CPRE School Finance Program seeks to explore ways in which state, district, and school education finance, budgeting and resource allocation and use systems can be restructured to support the broad education reform goals of teaching students to much higher achievement.

More information is available on the project's extensive website, which allows both experts and novices to familiarize themselves with issues related to school finance. Information is provided about previous and current school finance systems, followed by suggestions for reforming school finance with the goal of improving student performance. The website address is:

www.wcer.wisc.edu/cpre/finance/

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CPRE Research Reports

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Diane Massell, Michael Kirst, and Margaret Hoppe (No. RR-037, April 1997) $10

This report explores the persistence and transformation of standards-based instructional guidance strategies, and the issues and challenges that states and districts have confronted as they tried to implement these policies. It is based on extensive interviews conducted during 1994-95 in 9 states—California, Connecticut, Florida, Georgia, Kentucky, Minnesota, New Jersey, South Carolina, and Texas—and 25 districts in those states.

Rethinking the Allocation of Teaching Resources: Some Lessons from High Performing Schools
Karen Hawley Miles and Linda Darling-Hammond (No. RR-038, November 1997) $12

Although a great deal of debate surrounds the level and allocation of resources to public schools, very little of this discussion addresses how schools might organize teaching resources more effectively at the school level. This report describes case studies of five high performing public schools that have organized professional resources in innovative ways. The study sought to detail alternative ways of deploying instructional resources in order to provide concrete alternatives to the traditional organization of teachers and to quantify objectively the ways in which these schools use resources differently depending on their instructional goals and strategies. Although the schools studied looked very different from one another, they shared five principles of resource allocation, which are outlined in this report. The report develops a framework for re-examining the use of resources and a methodology that may be used to measure the extent to which schools use their resources in focused ways to support teaching and learning.

Instructional Policy and Classroom Performance: The Mathematics Reform in California
David K. Cohen and Heather C. Hill (No. RR-039, February 1998) $12

Educational reformers increasingly seek to manipulate policies regarding assessment, curriculum, and professional development in order to improve instruction. They assume that manipulating these elements of instructional policy will change teachers' practice, which will then improve student performance. This report formalizes these ideas into a rudimentary model of the relations among instructional policy, teaching, and learning. Using data from a 1994 survey of California elementary school teachers and 1994 student California Learning Assessment System (CLAS) scores, the report examines the influence of assessment, curriculum, and professional development on teacher practice and student achievement.

Do Curriculum-Based External Exit Exams Enhance Student Achievement?
John Bishop (No. RR-040, April 1998) $12

It is claimed that curriculum-based external exit exam systems (CBEEES), based on world class content standards, will improve teaching and learning of core subjects. What evidence is there for this claim? What impacts have such systems had on school policies, teaching, and student learning? This report seeks answers to these questions.

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